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(54) **Plinth**

(57) A plinth, prefabricated or cast in place, is **characterised in that** it has a main body (2) presenting circular or oval cross section with cylindrical or cone frustum outer shape.

The plinth internally presents a cage (6) comprising a plurality of irons (9) and a spiral (6) with fixed pitch or with variable pitch.

With respect to the prior art, use of single irons and of a single spiral reinforcement allows for savings in materials and time for the installation of the plinth, i.e. savings in the costs of the plinth, whilst allowing for better functionality of the plinth.

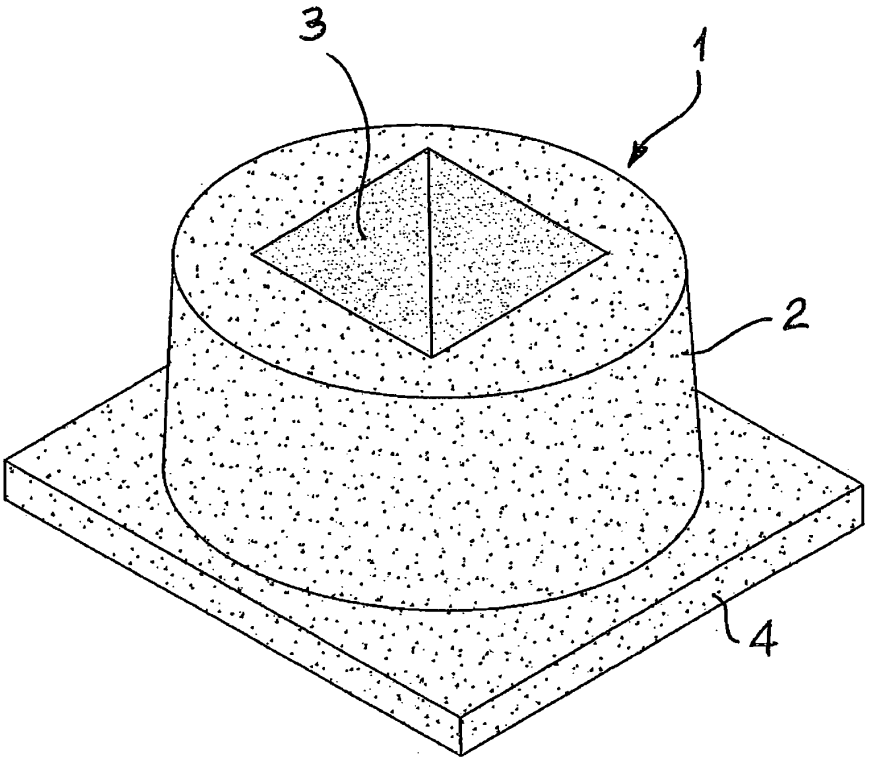

FIG.1

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Description

[0001] The present invention relates to a plinth.

[0002] Plinths are structures serving as bases or foundations, in particular to house pillars or trestles.

[0003] In the specific case the object of the invention is a plinth that is circled, prefabricated or cast in place.

[0004] Normally, such plinths have cubic or parallelepiped outer structure and they define a cavity into which is inserted the pillar or trestle.

[0005] Prior art plinths internally present a double bracket reinforcement.

[0006] However, the aforesaid plinths have some drawbacks, both in relation to the high cost of the inner reinforcement and to the time necessary for their preparation.

[0007] An additional drawback is that the structure in the shape of a cube or a parallelepiped is not optimal from the viewpoint of distributing stress.

[0008] An object of the present invention is to eliminate the aforesaid drawbacks making available a plinth that is more economical and at the same time more functional.

[0009] Said objects are fully achieved by the plinth of the present invention, which is characterised by the content of the appended claims and in particular in that it has such a shape as to present a circular or oval cross section with such a hoop as to absorb tangential and torsion stresses.

[0010] The hoop is preferably constituted by a spiral with fixed pitch or variable pitch.

[0011] This and other characteristics shall become more readily apparent from the description that follows of a preferred embodiment, illustrated purely by way of non limiting example in the accompanying drawing tables in which:

- figure 1 shows a perspective view of the plinth;
- figures 2 and 3 show respectively a front and plan view, partially sectioned, of the plinth;
- figure 4 shows a partially sectioned front view of the plinth, in an embodiment variant;
- figures 5 and 6 show respectively a front and plan view, partially sectioned, of the plinth.

[0012] With reference to the figures, the number 1 indicates, in its entirety, a prefabricated foundation plinth, comprising a main body or collar 2 having circular or oval cross section and defining within it a cavity 3, preferably with cubic or parallelepiped shape, shown in figure 1, into which a pillar is installed.

[0013] The main body thus has an original outer shape, substantially cylindrical or cone frustum with the lower base upwards.

[0014] The plinth further comprises a base or slab 4 made of reinforced concrete for discharging the stresses on the ground, which slab is an ordinary plinth base able to withstand combined compressive and bending stresses as well as the punching by the pillar-plinth complex.

[0015] Preferably the plinth 1 is a monolithic prefabricated plinth, i.e. one in which main body and slab are prefabricated in a single piece.

[0016] However, the plinth can also be monolithic in place, i.e. with main body and slab cast in place to form a single piece.

[0017] The main body of the plinth defines four blind holes 8, positioned at 90° and of a substantially known type, separated by a thin baffle from the central cavity 3. As the need dictates, it is easy to break one of the baffles to open one of the holes 8 creating a communication between the cavity 3 and the exterior of the plinth, through which cables can be passed, for example.

[0018] The plinth, according to the embodiment variant shown in figure 4, may also be constituted by a prefabricated main body that couples with a slab cast in place. In this case, three irons 7 are used, preferably with 30 mm diameter, to hold the main body stably in position while casting the slab.

[0019] The main body 2 is reinforced by a cage 5 originally constituted by individual vertical and sub-vertical irons 9, whose function is to collaborate with the concrete to generate and adequate resistance to axial and/or flexion stresses.

[0020] The irons 9 have 12-20 mm diameter and they are inferiorly bent for anchoring to the slab.

[0021] The main body 2 further comprises a spiral 6, preferably made of reinforcement steel having 10-16 mm diameter, which in addition to restraining the irons described above, serves the purpose of withstanding tangential (horizontal) and/or torsion stresses.

[0022] The spiral 6 has substantially transverse development.

[0023] The spiral 6, at three or more turns with fixed pitch or with variable pitch, is positioned in the upper part of the main body, whilst in the intermediate part of the main body is present an intermediate hoop 10 preferably with a single turn and in the lower part there can be a base hoop 11 to facilitate assembling the slab and the main body.

[0024] In the slab, instead, there is a mesh reinforcement 12.

[0025] The present invention has the advantage of presenting a single spiral reinforcement and single hoops instead of a double bracket reinforcement, with consequent saving of about 30% of the ferrous material employed and about 50% of the time necessary to install the plinth, both thanks to the smaller quantity of ferrous material used, and because the spiral and the hoops are obtained from iron already bent circularly because it is wound on reels, whilst traditional double bracket reinforcements, with the irons bent repeatedly to describe substantially rectangular shapes, need more time for working and bending the iron. This allows for evident savings in the costs of manufacture of the plinth.

[0026] An additional advantage is that the particular cylindrical or cone frustum shape of the main body 2 of the plinth, having perfect symmetry, allows for better

functionality of the plinth with respect to stresses.

Claims

1. A plinth, prefabricated or cast in place, **characterised in that** it has a main body (2) presenting circular or oval cross section and cylindrical or cone frustum outer shape.

2. A plinth as claimed in claim 1, wherein internally to the main body (2) there is a cage (5) that surrounds a cavity (3) and comprises a plurality of substantially vertical irons (9) such as to absorb axial and flexion stresses and a spiral (6) with such transverse development as to absorb tangential and torsion stresses.

3. Plinth as claimed in claim 2, wherein the spiral (6) has fixed pitch.

4. Plinth as claimed in claim 2, wherein the spiral (6) has variable pitch.

5. Plinth as claimed in claim 1, wherein is present a slab (4) with a mesh reinforcement (12) in its interior.

6. Plinth as claimed in claim 1 or 2, wherein is present an intermediate hoop (10).

7. Plinth as claimed in claim 1 or 2, wherein is present a base hoop (11).

8. Plinth as claimed in claim 5, wherein the main body (2) is prefabricated and the slab (4) is cast in place.

9. Plinth as claimed in claim 8, wherein the main body (2) comprises irons (7) to keep the main body (2) stably in position during the casting of the slab (4).

10. Plinth as claimed in claim 2, wherein the substantially vertical irons (9) are single irons.

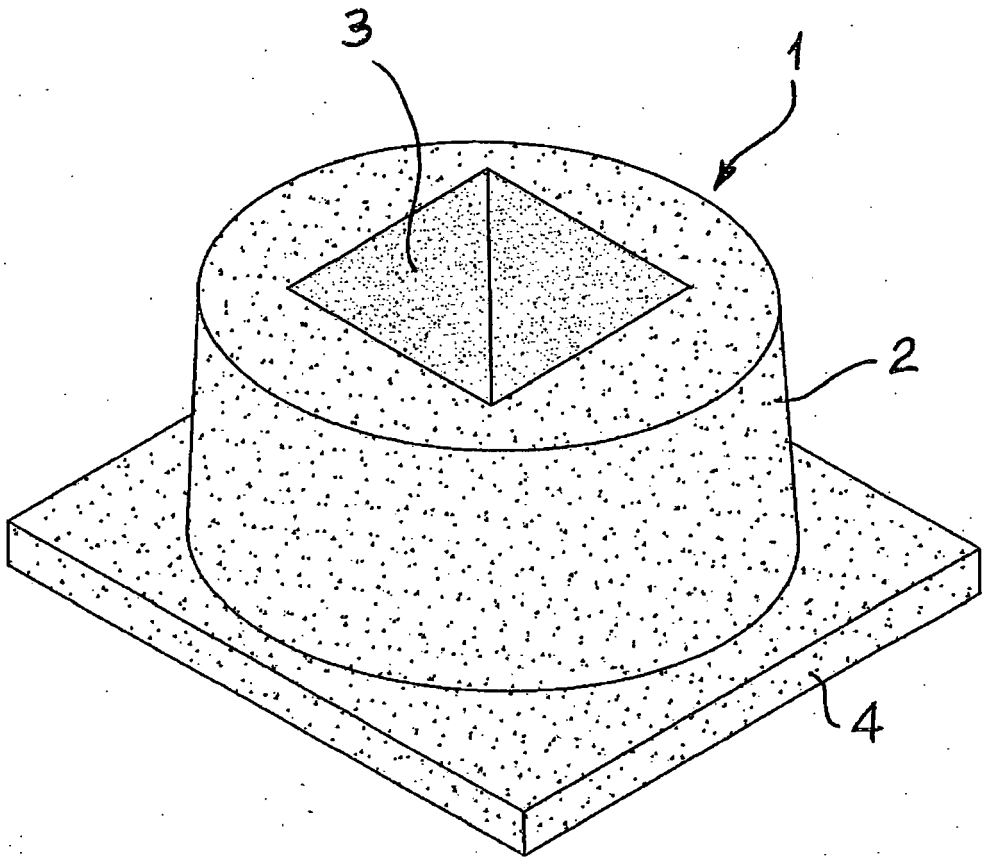


FIG.1

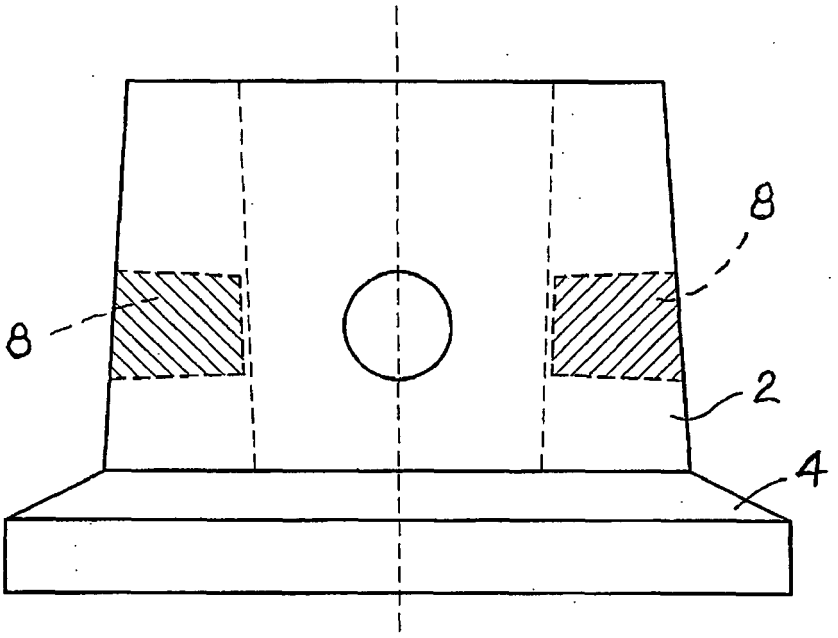


FIG. 2

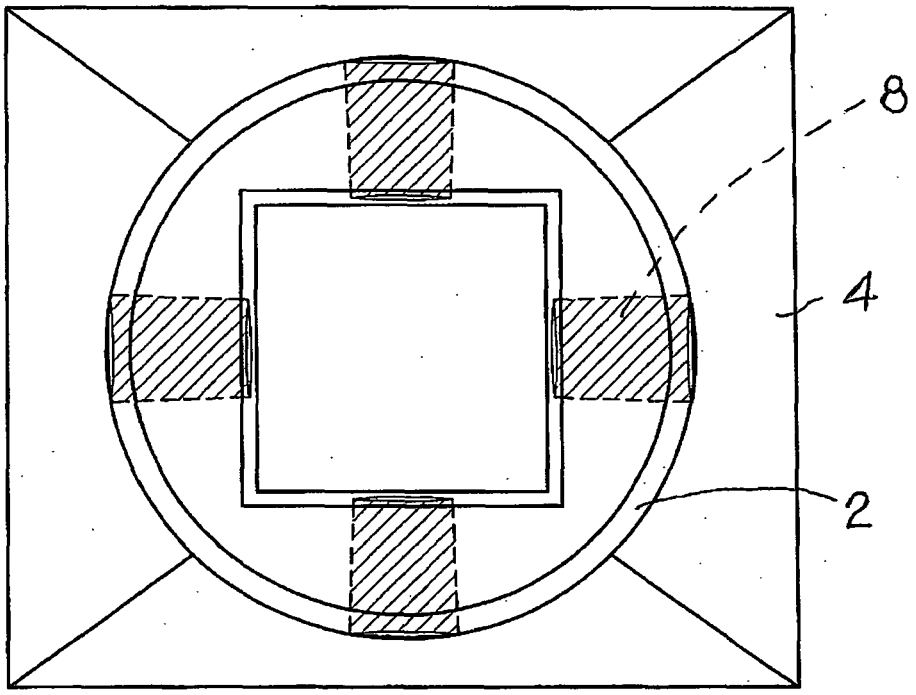


FIG. 3

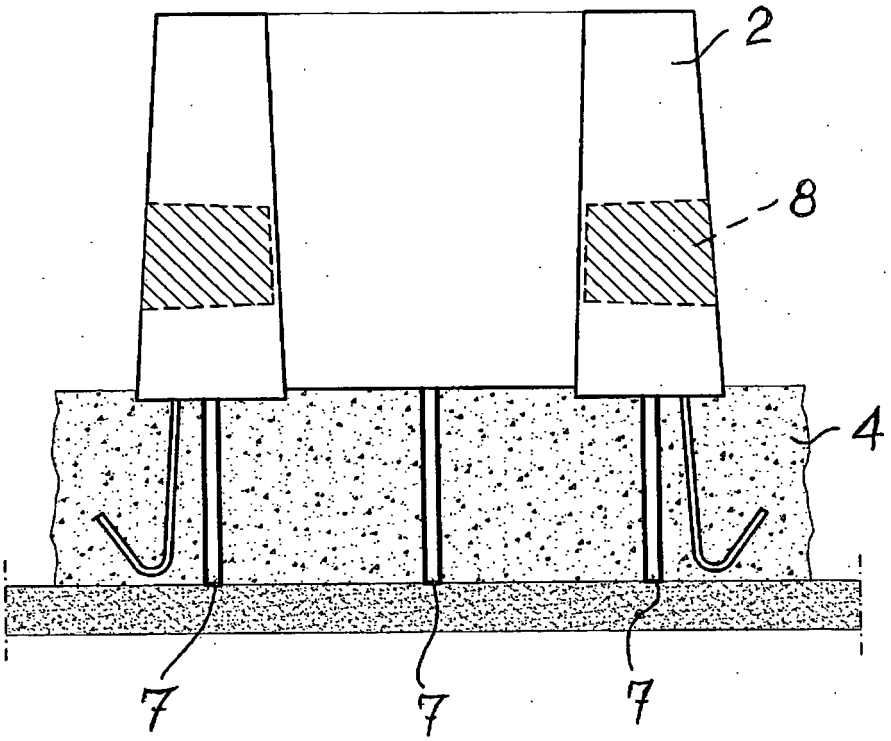


FIG. 4

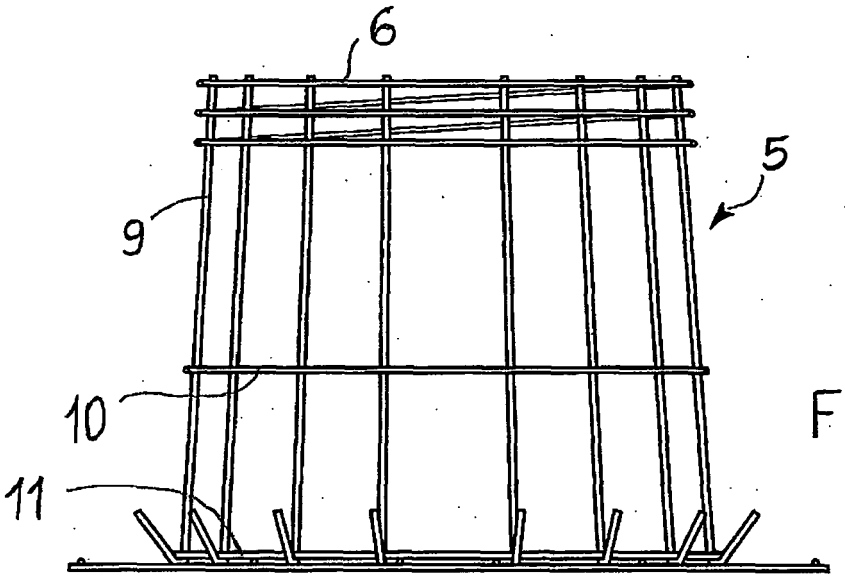


FIG. 5

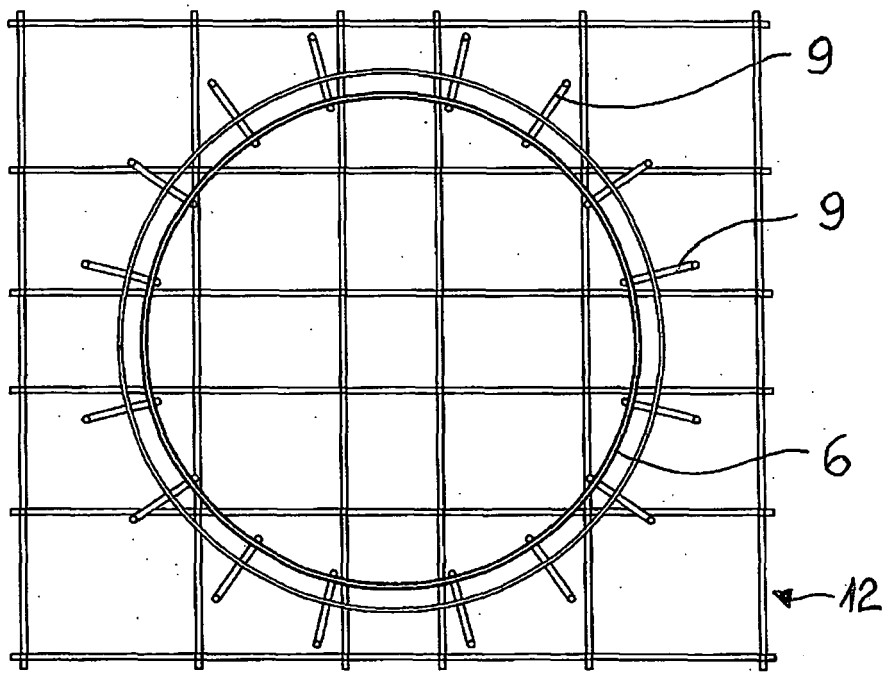
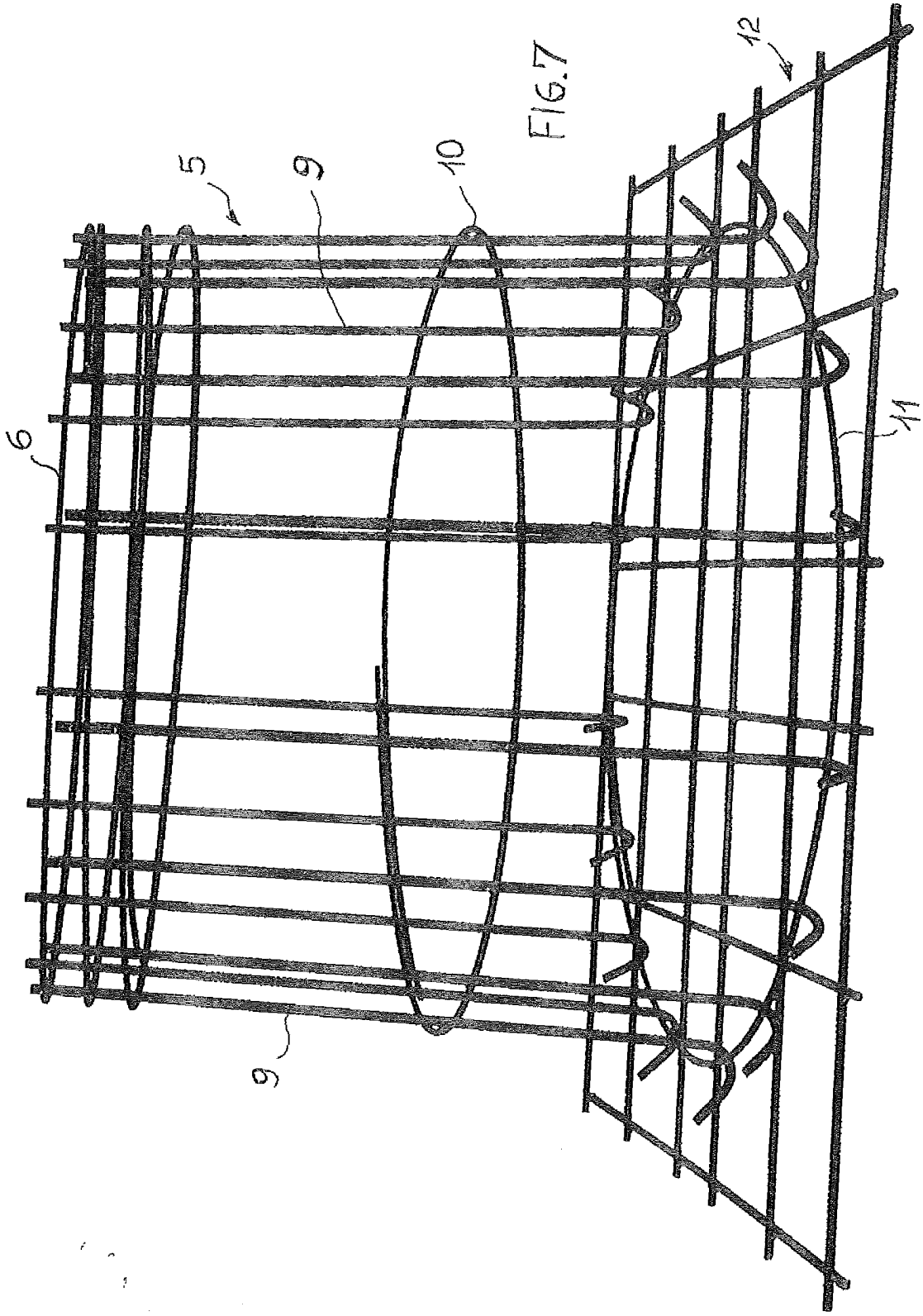


FIG. 6

FIG.7



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EUROPEAN SEARCH REPORT

Application Number
EP 08 42 5694

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	30 March 2009	Zuurveld, Gerben

CATEGORY OF CITED DOCUMENTS

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82